Study of Emergency Medical Service (EMS) Systems in select countries of the World

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Dr Parag Padmakar Rishipathak

Under the Guidance of

Dr Prasad Anant Rajhans, Consultant in EMS
Symbiosis Institute of Health Sciences (SIHS)
Senapati Bapat Road, Pune – 411004

Symbiosis International University

Pune – 412115

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THESIS CERTIFICATE

1. The thesis entitled **"Study of Emergency Medical Services (EMS) systems in Select Countries of the World"** Submitted to the Symbiosis International University, Pune for the award of Ph. D. Degree under the Faculty of Health & Biomedical Sciences is based on my original work carried out under the guidance of Dr Prasad Anant Rajhans from 2010 to 2013. The research work has not been submitted elsewhere for award of any degree.

2. The material borrowed from other source and incorporated in the Thesis has been duly acknowledged and / or referenced.

3. I understand that I myself could be held responsible and accountable for plagiarism, if any, detected later on.

4. Research papers published based on the research conducted out of and in the course of the study leading to Ph. D. are appended.

Date: 15.10.2013

Dr Parag Padmakar Rishipathak
Research Scholar

Dr Prasad Anant Rajhans
Research Guide

EXECUTIVE SUMMARY

Emergency Medical Service (EMS) is a branch of emergency services dedicated to providing pre-hospital acute medical care and/or transport to definitive care, to patients with illnesses and/ or injuries which the patient, or the medical practitioner, believes constitutes a medical emergency.

The goal of EMS is to provide treatment to those in need of urgent medical care, with the goal of satisfactorily treating the illness and/or arranging for timely removal of the patient to the next point of definitive care. This is most likely a Casualty/ Emergency Room at a hospital or another place where physicians are available.

The term EMS evolved to reflect a change from a simple transportation system to a one in which actual medical care is provided in transit in addition to mere transportation**.**

In spite of the development in the healthcare sector over the past decade, India is yet to create a single, comprehensive EMS system that can be accessed throughout the country. Only 14 states have managed to launch a state wide EMS system as on today. Moreover, 70 per cent of the Indian population lives in rural areas that do not have access to EMS.

Having thus understood the close linkage between healthcare sector and EMS, the change in our understanding of concept of EMS, evolution of EMS, one needs to take stock of the developments pertaining to all of the above in our country, in light of global developments.

Sporadic, isolated and to a certain extent incoherent (not addressing all dimensions of Emergency Medical Services) efforts are being undertaken. Further in India, information and documentation regarding the same is limited. Hence, the current research on EMS systems and different models operational nationally and

learning from other models operational internationally is exploratory in nature. Hence, an investigative approach necessitating further studies has been adopted.

Such a comparative study perhaps facilitates evolving a consensus model which could be replicated. Local and state government should be sensitized for public sector prioritization, private sector engagement, human resource development and institutional reforms.

By collaborating with agencies worldwide, one can bring in the essential technical expertise to truly reform the system and adopt standards to facilitate global benchmarking. This may subsequently form the basis of a model for national policy formation. This policy formation is likely to be the basis of a national consensus for a good Emergency Medical Services model suitable to our country.

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ABBREVIATIONS

AAA – Ambulance Access for All

AAPI – American Association of Physicians of Indian Origin

ACEP – American College of Emergency Physicians

ACP - Advanced Care Paramedic

AD – Additional Duties

AEA - Ambulance Emergency Assistant

AHA – American Heart Association

ALS – Advanced Life Support

AVL - Automatic vehicle location

AWF - Afghanistan World Foundation

BAA - Basic Ambulance Assistant

BCLS - Basic Cardiac Life Support

BLS – Basic Life Support

BTech - Bachelor Degree Technology

BEMC - Bachelor Degree in Emergency Medicinal Care

BTLS - Basic Trauma Life Support

BVG - Bharat Vikas Group

CATS – Centralized Accident & Trauma Services

CCA - Critical Care Assistant

CCE - Continuing Clinical Education

CII - Confederation of Indian Industries

CPR – Cardio Pulmonary Resuscitation

CRTC - Canadian Radio Television and Telecommunications Commission

DIT - Directorate of Industrial trainings

DOHS - Directorate of Occupation Health and Safety

ECMO - Extracorporeal Membrane Oxygenation

ECT - Emergency Care Technician

ED – Emergency Department

EMR – Emergency Medical Responder

EMS – Emergency Medical Services

EMT – Emergency Medical Technician

EMT.B - Emergency Medical Technician (Basic)

EMT.I - Emergency Medical Technician (Intermediate)

EMT.P - Emergency Medical Technician (Paramedic)

ER – Emergency Room

FR - First Responder

FRM - Fast Response Medic scheme

GCRI - Gujarat Cancer Research Institute

GP – General Practitioner

GPS - Global Positioning System

GVK EMRI – GVK Emergency Management & Research Institute

HROB - High Risk Obstetrics

IKDRC - Institute of Kidney Diseases and Research Centre

ILS – Intermediate Life Support

IPG – International Program Guidelines

ITC – International Training Center

ITLS – International Trauma Life Support organization

JRCALC – Joint Royal Colleges Ambulance Liaison Committee.

KRCS - Kenya Red Cross society

LSAS – Life Support Ambulance Service

MICU – Mobile Intensive Care Unit

NAIS - The Northern Ireland Ambulance Service

NANP - North American Numbering Plan

NAPS - New Ambulance Performance Standards

NASO - National Ambulance Sector Office

NGO - Non Governmental Organization

NOCP - National Occupational Competency Profile

NQF - National Qualification Framework

NRCK - National Resuscitation Council of Kenya

NREMT - National Registry of Emergency Medical Technicians

PCP - Primary Care Paramedic

PGDEMS – Post Graduate Diploma in Emergency Medical Services

PGPEC – Post Graduate program in Emergency Care

PPP – Public Private Partnership

PSAP - Public Safety Answering Point

PTAK - Professional Trainers Association of Kenya

SCDF - Singapore Civil Defense Force

SEMI - Society of Emergency Medicine-India

SEMI - Stanford Emergency Medicine International

SIHS – Symbiosis Institute of Health Sciences

SIU – Symbiosis International University

SMUR – Mobile Emergency & Resuscitation Unit

SPSS - Statistical Package for Social Sciences

UAMS - University of Arkansas for Medical Sciences

UGC – University Grants Commission

VPS – First Aid or Rescue Vehicles

VSAV - Casualties' Rescue and Assistance Vehicle

ZHL - Ziqitza Health Care Services Limited